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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/707,775

01/12/2004

Michael Ronald Miller

140525

1774

23413 7590 01/30/2007  
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EXAMINER

RAMIREZ, JOHN FERNANDO

ART UNIT

PAPER NUMBER

3737

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

01/30/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/707,775

Applicant(s)

MILLER ET AL.

Examiner

John F. Ramirez

Art Unit

3737

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

Art Unit: 3737

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments, see remarks on pages 6-16, filed on September 25, 2006, with respect to claims 1-20 have been fully considered and are persuasive. The office action dated April 24, 2006 has been withdrawn.

However, upon further consideration, the following new office action is provided in order to expedite the prosecution of this application.

### ***Claim Rejections - 35 USC § 102***

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

1. Claims 1, 6, 9, 14, and 19 rejected under 35 U.S.C. 102(e) as being anticipated by Ariav et al. The cited reference discloses a respiratory

Art Unit: 3737

measurement system (paragraph 0080), comprising: a plastic cord that is configured to be placed across a chest of a person (fig. 5, paragraphs 0080, 0160-0162), the plastic cord being substantially transparent to x-rays (paragraphs 0080, 0061); and, a sensor coupled to the plastic cord generating a measurement signal indicative of an amount of displacement of the plastic cord during respiration by the person, wherein the sensor comprises a linear position encoder (paragraphs 0081,0160), and is outside a scanning area of the x-ray device (paragraphs 0080,0089).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 4, 5, 10, 11, 17, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ariav et al. in view of Bowers (US 5,207,230) and in further view of Zomer (US 5,235,989). Ariav et al., teaches all the limitations of the claimed subject matter except for mentioning specifically a plastic cord comprises a polypropylene string, a plastic tube configured to be placed across the chest of the person, the plastic cord being disposed in the plastic tube.

However, a plastic cord comprises a polypropylene string, a plastic tube configured to be placed across the chest of the person, the plastic cord being

Art Unit: 3737

disposed in the plastic tube are considered conventional in the art as evidenced by the teachings of Bowers (US 5,207,230) and Zomer (US 5,235,989).

The Bowers and the Zomer patent teaches a plastic cord comprises a polypropylene string (see Bowers, figures 1-4, col. 2 lines 20-68) (see Zomer, figures 1-6, 11, col. 4, lines 39-46), a plastic tube configured to be placed across the chest of the person, the plastic cord being disposed in the plastic tube (see Bowers, col. 4, lines 10-51).

Based on the above observations, for a person of ordinary skill in the art, modifying the system disclosed by Ariav et al., with the above discussed enhancements would provide a high quality output signal indicative of true respiratory effort with minimum artifacts.

3. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ariav et al. in view of Rasche et al. (US 6,865,248) and in further view of Sontag et al. (US 6,298,260). Ariav et al., teaches all the limitations of the claimed subject matter except for mentioning specifically a device for generating a visual indication of respiratory function of the person based on the signal, and wherein respiratory function comprises a lung volume level.

However, a device for generating a visual indication of respiratory function of the person based on the signal, and wherein respiratory function comprises a lung volume level are considered conventional in the art as evidenced by the teachings of Rasche et al. (US 6,865,248) and Sontag et al. (US 6,298,260).

The Rasche et al. and Sontag et al. patent teaches a device for generating a visual indication of respiratory function of the person based on the signal (see

Art Unit: 3737

(see Rasche et al. figures 3-5) (see Sontag et al. figure 5). Moreover, Sontag et al. teaches wherein respiratory function comprises a lung volume level (see abstract, figs. 3-5, element 26).

Based on the above observations, for a person of ordinary skill in the art, modifying the system disclosed by Ariav et al., with the above discussed enhancements would provide an accurate output signal by minimizing inaccuracies in the assumed spatial position of the tissue volume arising from displacements induced by the patient's respiration.

#### ***Allowable Subject Matter***

4. Claims 7-8, and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to John F. Ramirez whose telephone number is (571) 272-8685. The examiner can normally be reached on (Mon-Fri) 7:30 - 4:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian L. Casler can be reached on (571) 272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3737

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JFR  
01/12/07

  
ELENI MANTIS MERCADER  
SUPERVISORY PATENT EXAMINER